

AMENDED CLAIMS

1. (currently amended) A mounting structure for assembling a plurality of optoelectronic components, comprising:

a first substrate on which at least one first optoelectronic component is arranged, the first substrate being in the shape of a rhombus and having an edge connector disposed on an edge thereof providing electrical access to the at least one first optoelectronic component; and

a second substrate on which at least one second optoelectronic component is arranged, the second substrate being in the shape of a rhombus and having an edge connector disposed on an edge thereof providing electrical access to the at least one second optoelectronic component, the edge connector of the second substrate connecting ~~which operatively connects~~ with the edge connector of the first substrate to ~~form an arrangement of electrically interconnect~~ the at least one first optoelectronic component and the at least one second optoelectronic component.

2. (currently amended) The mounting structure as set forth in claim 1, wherein:

~~at least one of~~ each of the first substrate and the second substrate has a rhombus shape that corresponds to a primitive unit cell of a hexagon.

3. (currently amended) The mounting structure as set forth in claim 1, further comprising:

an interconnecting element interposed between the edge connectors of the first and second substrates that connects with the edge connector of the first substrate and that connects with the edge connector of the second substrate to connect the edge connector of the first substrate with the edge connector of the second element.

4. (canceled)

5. (original) The mounting structure as set forth in claim 1, wherein the first substrate includes:

a thermally conductive layer; and

a printed circuit board into which the edge connector is formed, the printed circuit board including an electrical path connecting the at least one first optoelectronic component with the edge connector.

6. (original) The mounting structure as set forth in claim 5, wherein:

the at least one first optoelectronic component includes at least one light emitting diode (LED); and

the first substrate includes a lens in operative communication with the at least one LED.

7. (original) The mounting structure as set forth in claim 5, wherein:

the at least one first optoelectronic component includes a plurality of light emitting diodes (LED's) disposed on the substrate; and

the printed circuit board includes an electrical path that electrically interconnects the LED's disposed on the substrate.

8. (original) The mounting structure as set forth in claim 7, wherein:

the thermally conductive layer has depressions in which the LED's are arranged; and

the printed circuit board has holes arranged to allow the LED light emission to pass through.

9. (currently amended) The mounting structure as set forth in claim 1, further comprising:

a third substrate on which at least one third optoelectronic component is arranged, the third substrate being in the shape of

a rhombus and having a first and second edge connector ~~connectors~~ disposed on ~~an edge~~ edges thereof providing electrical access to the first and second optoelectronic components, the first edge connector electrically interconnecting ~~which operatively connects~~ with a second edge connector of the first substrate, ~~and having a the second edge connector disposed on an edge thereof which operatively connects~~ of the third substrate electrically interconnecting with a second edge connector of the second substrate, the first, second, and third rhombus-shaped substrates being arranged to form a hexagonally shaped mounting structure.

10. (currently amended) The mounting structure as set forth in claim 1, further comprising:

~~at least one~~ a terminating element connecting with a second edge connector of one of the first and second substrates, the terminating element including circuitry that completes that completes an electrical circuit including the at least one first and second optoelectronic components.

11. (currently amended) The mounting structure as set forth in claim 1, further comprising:

~~at least one~~ a terminating element connecting with a second edge connector of one of the first and second substrates to supply which supplies electrical power to the mounting structure including the at least one first and second optoelectronic components.

12. (currently amended) A modular mounting assembly for connecting a plurality of light emitting diodes (LED's) ~~in a selectable electrical and spatial arrangement,~~ the mounting assembly comprising:

a plurality of substrates, each substrate having:

at least one LED fixedly arranged thereon, and

a plurality of connectors arranged thereon that are in electrical communication with the at least one LED fixedly arranged thereon, wherein the plurality of substrates are arranged in a spatial arrangement having selected ~~pairs of~~ connectors of adjacent substrates connected together to electrically interconnect in electrical communication with each other providing an electrical arrangement between the plurality of LED's as an electrical circuit.

13. (currently amended) The modular mounting assembly as set forth in claim 12, further comprising:

~~an~~ a plurality of interconnecting ~~element~~ elements interposed between selected adjacent substrates that electrically and structurally ~~interconnects~~ interconnect the selected adjacent substrates ~~through pairs of connectors.~~

14. (canceled)

15. (original) The modular mounting assembly as set forth in claim 12, wherein:

~~at least one of the plurality of substrates has a~~ each have a non-rectangular rhombic shape.

16-19. (canceled)

20. (new) The mounting structure as set forth in claim 1, wherein the first and second substrates are generally planar and lie in a common plane when electrically interconnected by the edge connectors.

21. (new) The modular mounting assembly as set forth in claim 12, wherein the spatial arrangement of the plurality of substrates defines a two-dimensional array.

22. (new) A light emitting structure comprising:

a plurality of multi-sided substrates arranged with at least one side of each substrate adjacent a side of a neighboring substrate, electrical connectors of the adjacent sides electrically connecting the neighboring substrates together; and

a plurality of light emitting elements disposed on the plurality of multi-sided substrates, the light emitting elements being electrically interconnected via the electrical connectors.

23. (new) The light emitting structure as set forth in claim 22, wherein each connector includes a plurality of electrical conductor members, and the light emitting structure further comprises:

a plurality of interconnecting elements, each interconnecting element being disposed between two neighboring multi-sided substrates and electrically connecting with the connectors of the two adjacent sides, each interconnecting element electrically connecting the electrical conductor members of the connectors of the two adjacent sides together in a pre-selected electrical configuration.

24. (new) The light emitting structure as set forth in claim 23, wherein the light emitting structure is selectively configurable into any of a plurality of physical and electrical configurations by selectively arranging the multi-sided substrates and by selecting interconnecting elements with pre-selected electrical configurations that effectuate the selected electrical configuration of the light emitting structure.

25. (new) The light emitting structure as set forth in claim 22, wherein each connector includes a plurality of electrical conductor members, and the light emitting structure further comprises:

a plurality of interconnecting elements interposed between

the neighboring multi-sided substrates, each interposed interconnecting element mechanically fastening the neighboring substrates together and having two ports that electrically connect with the two connectors of the two adjacent sides, each interconnecting element electrically connecting the electrical conductor members of the connectors of the two adjacent sides together in a pre-selected electrical configuration.